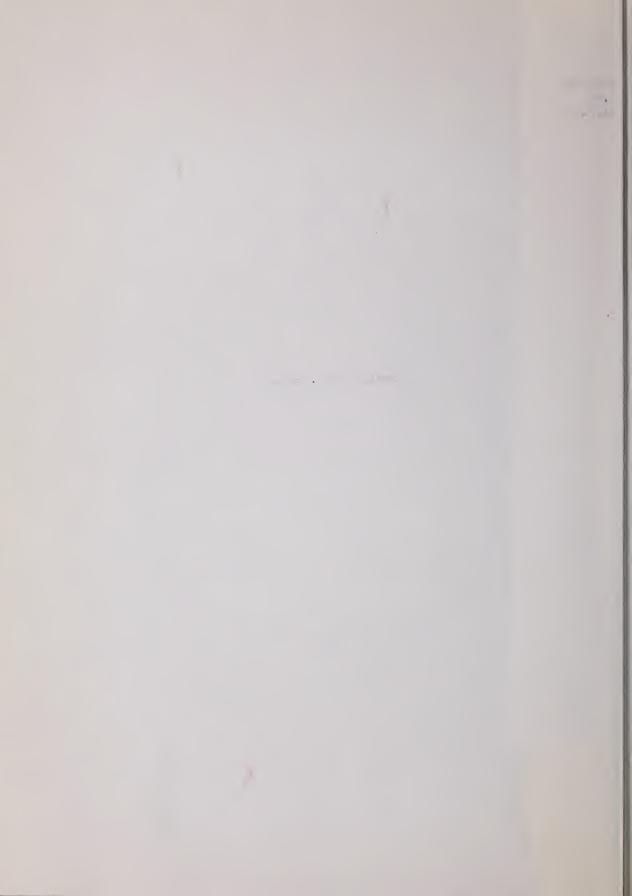
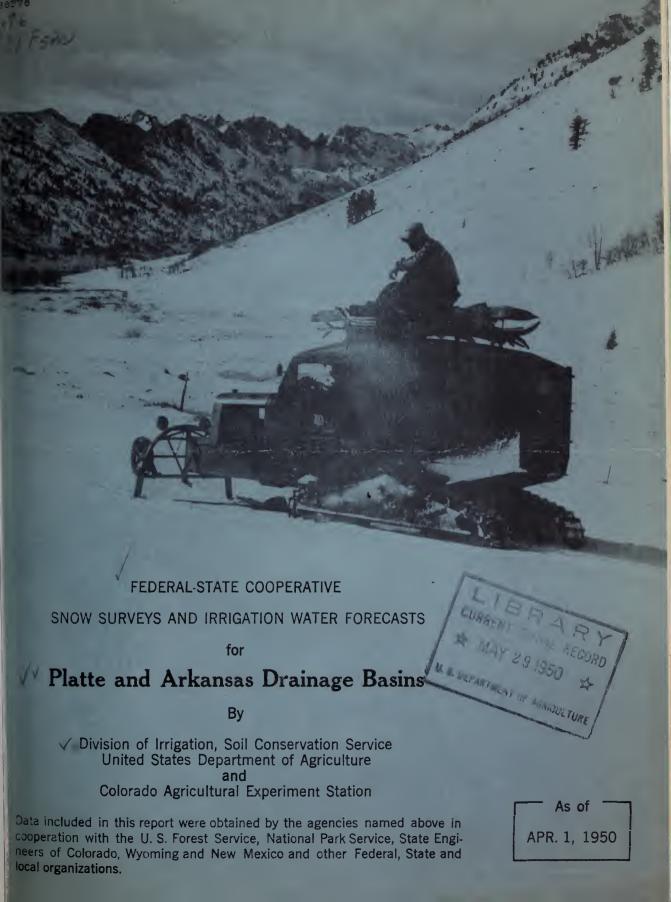
### **Historic, Archive Document**

Do not assume content reflects current scientific knowledge, policies, or practices.







### WATER SUPPLY OUTLOOK

### PLATTE-ARKANSAS DRAINAGE BASIN

april 1, 1950

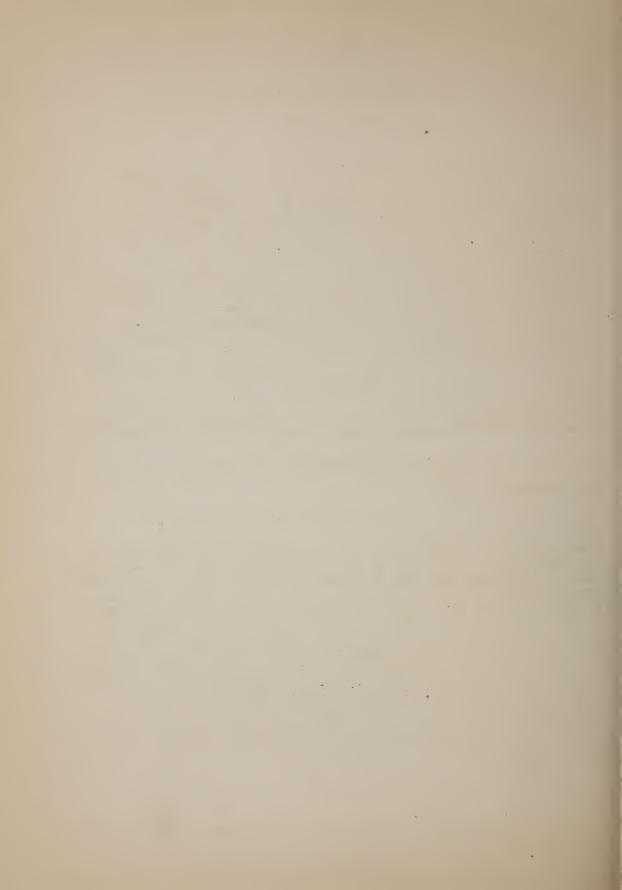
On the Platte and Arkansas drainage basins the snow accumulation to April 1 varies from twice normal on the Sweetwater River to about 80 percent of normal on the headwaters of the Arkansas. In the Northern Colorado mountains forming the headwaters of the Platte Rivers snow cover is about normal. On the Wyoming drainage of the North Platte snow cover is relatively higher. Dry soil under the snow, due to lack of rainfall during the fall months will reduce the summer runoff, that would be expected from current snow cover. Soil moisture in valley areas is dry. Irrigation reservoirs on the North and South Platte have more water in storage than a year ago. The major reservoirs on the North platte have a record carryover from last years heavy flow.

### CHEYENNE RIVER

Although the snow cover in the Black Hills of South Dakota and Wyoming has been low during the previous months, snow during March has increased the snow water content to 140 percent of normal and 84 percent of April 1, 1949. Soil moisture conditions are good with some snow on the ground at valley elevations. Belle Fourche reservoir has in storage 93,000 acrefeet as compared to 132,000 a year ago.

### NORTH PLATTE RIVER

On the source of the Sweetwater River southwest of Lander, the mountain snow cover is higher than for any date since snow surveys were started in 1936. It is twice normal and 36 percent above last year. On the North Platte drainage in Colorado and Wyoming the situation is considerably different with the snow cover about 10 percent above normal and much less than a year ago. March snowfall has been above average in North Park of Colorado and at higher elevations on the Wyôming watershed. At valley elevations from Casper through Western Nebraska winter precipitation has been very low and a serious deficiency in soil moisture exists. Streamflow is reported as below normal. Storage in the North Platte reservoirs is at record levels with a total of 1,675,000 acre-feet in the four major reservoirs in Wyoming. Last year on this date the storage was 1,250,000 acre-feet. In the Kingsley and Sutherland reservoirs in Nebraska there is now stored 1,850,000 acre-feet which is practically the same as a year ago.



On the Laramie River the snow cover is similar to the North Platte with relatively higher snow on the range west of Laramie. The soil moisture in the Wheatland district is dry and stream flow is reported as below normal. Wheatland reservoirs now have in storage 52,000 acre-feet. A year ago it was about 37,000.

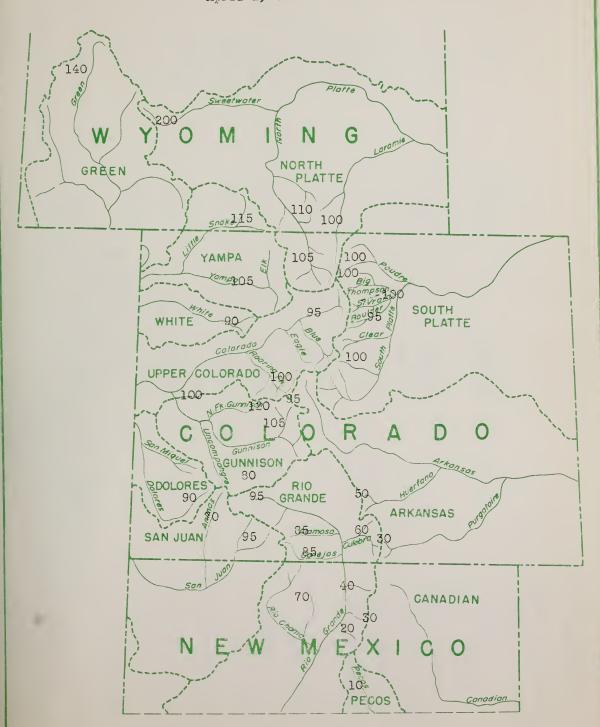
### SOUTH PLATTE RIVER

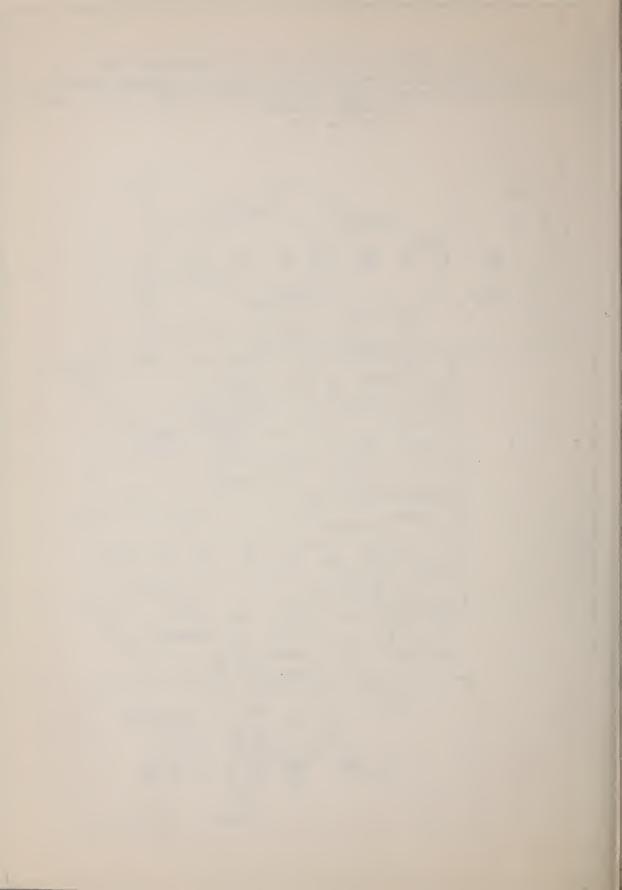
With slightly below normal snow cover on the headwaters of the South Platte the water supply outlook for this stream is much less favorable than for 1949. Because of dry soil conditions in the mountains during the fall and early winter months, summer runoff may be expected to be less than the current snow cover would indicate. Normal runoff may cause a shortage of water if summer rainfall is average or less because of higher demand for irrigation water. In respect to the past average, snow cover is about normal on the Poudre, Big Thompson and Saint Vrain Rivers. Conditions on Boulder and Clear Creeks are also normal. On the South Platte above Denver snow cover is about 85 percent of normal. There has been very little snow in South Park during the winter and at the present time there is none on the ground. Since there has been practically no snow in the valley during the winter months soil moisture conditions are very poor especially near the mountains. In the lower valley below Fort Morgan soil moisture is reported as fair. without exception the carryover storage in irrigation reservoirs is above last year and the past 10-year average.

### ARKANSAS

The water supply outlook for the Arkansas River above Salida has improved materially during the past month. Snow cover measured at Tennessee, Fremont and Monarch Passes and intervening points is near average. At Marshall Pass and on mountain areas to the east of the river the snow cover remains very light. On Fountain Creek and on the Huerfano, Cucharas and Purgotoire Rivers, which originate in the front range, the summer runoff from snow melt will be extremely low. Soil moisture conditions throughout the valley are described as poor. Reservoir storage is slightly below last year. Streamflow is about 50 percent of average.

WATER CONTENT OF SNOW ON THE WATERSHEDS OF
PLATTE, ARKANSAS, UPPER COLORADO AND RIO GRANDE BASINS
BASED ON SNOW SURVEYS MADE APPROXIMATELY FIRST DAY OF MONTH
In Percent of Normal
April 1, 1950





### PLATTE-ARKANSAS DRAINAGE EASINS STREAM FLOW FORECASTS, April 1, 1950

			150 6 4 - 50 6		
		Ap	2	Diream Iow, Acre reeu	
Basin and Stream	Forecast 1950	1949	Measured Runoif 1948	1947	1039-1948
NORTH PLATTE					
Sweetwater at Alcova	120,000	87,000	000,04	85,000	57,000
North Platte at Saratoga	700,000	000,066	421,000	761,000	644,000
Medicine Bow near Hanna	135,000	161,000	000,79	150,000	103,000
Laramie at Jelm	80,000	113,000	83,000	123,000	88,000
Laramie at Lookout	80,000	123,000	61,000	124,000	72,000
SOUTH PLATTE					
Poudre at Canon	200,000	323,000	201,000	298,000	233,000
Big Thompson at Drake	85,000*	171,000	95,000	163,000	103,000
Saint Vrain at Lyons	70,000	119,000	000,179	126,000	81,000
Boulder at Orodell	7,000	61,000	45,000	74,000	51,000
Clear Creek at Golden	130,000	185,000	136,000	204,000	137,000
ARKANSAS	,				
Arkansas at Salida	300,000	7,60,000	422,000	450,000	344,000
Cucharas at La Veta	10,000		17,000	24,000	18,000
Purgatoire at Trinidad	20,000		000,89	000,69	65,000
*Excluding Diversions	-				

-17-

STATUS OF RESERVOIR STORAGE, PLATTE-ARKANSAS BASIN, April 1, 1950

ril 1, 1950	1939-1948		11.7	7.1	7.8	9.4	2.1	2.9	4.1	3.6	1.7	15.5	0.9	2.6	7.3	2.3	79.1	65.3	16.0	20.9	11.9	12.4	3.2	14.0	9.5	47.4	30.7	33.8	22.6	59.3	21.5
STORAGE About April	1947		11.7	7.5	9.5	4.1	1.7	2.7	9.0	7-7	0.0	1,9	ω. N	1,8	6.7	0.0	81.9	50°0	16.7	28.2	19.8	12,0	3.4	20.0	12,5	55.7	33.5	34.2	29.5	70.3	27.2
FEET IN	1948		14.2	9.3	10.6	0.9	1.2	2.7	5.2	4.3	6.5	30.1	ထိ	4.1	12.0	1	81.9	77.3	14.2	56.6	18.6	16.9	7.0	21.0	12,5	53.9	32.2	33.1	29.1	67.8	21.2
THOUSANDS ACRE	6761		6.7	1,6	1.5	4.1	1, 7,	1.6	6.7	4.1	٦,٠٢	20.5	14.7	1,3	6,1	٦. ک	81.9	51.0	15,5	24.7	14.0	12.2	1.2	20.0	12,5	52.2	29.9	28.1	27.7	36.8	21.2
	1950		11.9	8.2	8.6	4.4	0,0	2.3	11.3	л. 0	5.9	26.4	9.9	1,8			81.9	62.7	12,3	24.6	16.8	10.7	1,8	21.0	14.1	59.3	35.2	34.0	30.0	69.2	21.2
USABLE CAPACI TY	(Thous.		18.6	2.5	11,6	8.2	<b>6.</b> 4	8.8	34.3	8,0	14.3	7,0	9.2	5.4	12.7	11.7	81.9	79.0	18.9	32.2	24.4	18,5	10.3	33.0	20°9	57.5	37.7	35.4	32.8	70.0	28.2
RESERVOIR			Windsor	Cache la Poudre	Fossil Creek	Terry Lake	Halligan	Chamber's Lake	Cobb Lake	Black Hollow	Lake Loveland	Boyd Lake	Lone Tree	Mariano	Union	Barker Weadow	Eleven Mile	Cheeseman	Marston	Barr Lake	Wilton	Standley	Warshall	Antero	Horse Creek	Riverside	Empire	Jackson Lake	Prewitt	Point of Rocks	Julesburg
BASIN AND STREAM		MISSOURT RIVER	Poudre River	=	=	=	=	=	=======================================	=	Big Thompson River	11 11	=======================================		St. Vrain River	Boulder Creek	South Platte River	22		62 GE 64 GE	=======================================	44 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	1	=======================================	Que des	11 11	\$0.00 mm		=======================================	=======================================	=

\*Some for shorter periods

RESERVOIR STORAGE, Cont.

	10-year Avg.** 1939-1948	761.0	22.6	69.8	212.1	0.04	326.2	33.5		27.8	) r 8	5.7	25,1	11.0	33.4	7.3	8,7%	58.8%	55.8	5,1		113.7
E ABOUT APE	1947	1260.0	23.9	84.2	344.2	36.7	477.8	24.4		27.9	8,1	4.5	27.6	17.1	39.2	2,4	8,4	63,7	77,6	3.4		149.8
THOUSANDS ACRE TEET IN STORAGE ABOUT APRIL 1	1948	1727.0	21.0	110.3	592.5	14.0	663.9	72.7		30,2	10.8	9,1	37.8	17.7	58.7	19.8	4,0	103,9	115.2	5.1		161.4
ACRE FEE	1949	1743.0	18.1	129.8	522.4	47.9	543.6	40.9		23.1	7.6	7.4	21.7	13,1	26.1	8,0	9,3	142,6	90.5	1,3		132.1
THOUSAN	1950	1846.0	27.2	154.8	573.8	30°0	920.0	52.3		23.7	6,8	<b>6.</b> 8	4.7	6.7	29.0	7.0	17.1	158,6	66.3	0.7		93.0
CAPACI TY	(Thous. A.F.)	2180.0	60.8	190.0	1025.0	19.2	1045.5	70.4		57.9	17.4	11,04	in.9	26.9	61.6	10.0	10.9	655.0	150.0	15.0		198.1
RESERVOIR		Kingsley-Sutherland	Minatare	Alcova	Seminoe	Guernsey	Pathfinder	Wheatland		Twin Lakes	Sugar Loaf	Clear Creek	Meredith	Horse Creek	Adobe Creek	Cucharas	Two Buttes	John Martin	Great Plains	Model		Belle Fourche
BASIN AND STREAM		North Platte River	H H	11 11	= = =	,	=	Laramie River	ARK MSAS RTVEB	Arkansas River	=	=======================================		= =	=	=======================================	=======================================	<b>2</b>	=======================================	Purgatoire River	CHEVENNIE RIVER	Cheyenne River

\*Some for shorter periods

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# SUMMARY OF APRIL 1 SNOW SURVEYS AND COMPARISON OF DATA WITH THAT OF PREVIOUS YEARS SY WATERSHEDS

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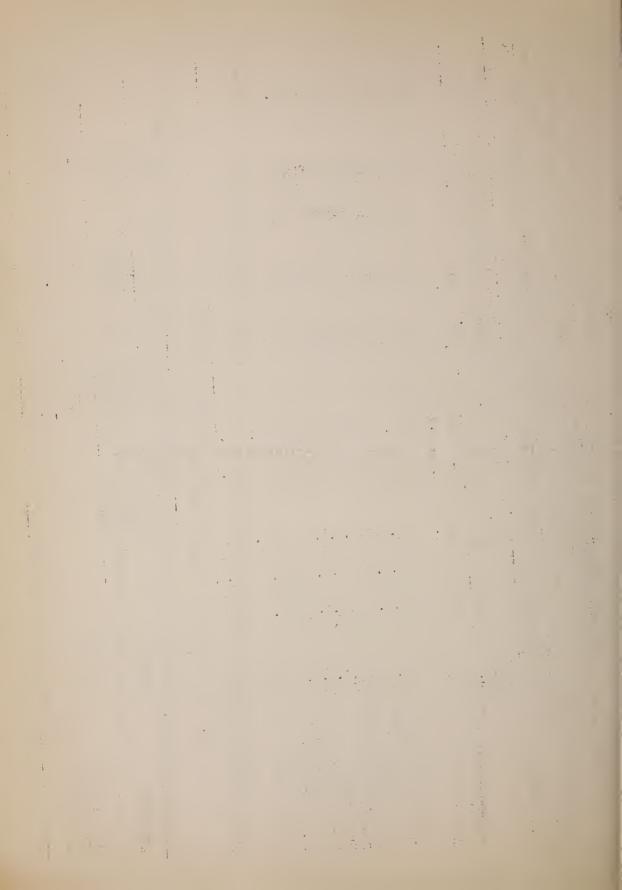
BASINS
DRAINAGE
PLATTE-ARKANSAS

Conten	nt of	1949				84			136	82	77	42	28	92	89	20	78	66	 71	
1950 Water Conten	in percent of	50 Fourteen	Kear	Avg. *	ent	071	over ne name		200	111	102	86	52	102	66	100	16	106	 77	
		195			Percent	20			36	34	33	56	53	35	32	31	32	30	 28	
	Snow Density	1949			Percent	30			31	37	31	25	27	33	32	32	29	32	 56	
	Snow	Fourteen	year	hvg.*	Percent	26			27	33	30	26	35	31	30	30	33	30	29	
Number	Courses	in	Average			m			2	10	∞	m		9	~		~	2	 6	
2		1950	4			6.9				21.5		6,2	2,7	12.9	16.2	13.7	11.6	16.4	 7.9	
	Conte	1949			In.	8,2			17,6	26.4	16.7	7.9	9.6	17.0	23.8	17.6	14.9	16.6	11.2	
	Water Content	en 1949 1950 Fourteen 1949 1950	Year	Avg. *	In	0.14	•		12.0	19.4	12.5	7.2	2.2	12.6	16.4	13.7	12.3	15.5	 42.4 27.9 10.3	nver
	ď	1950			In	27.6 34.5			67.0	63.2		23.5	9.4	37.3	50,1	43.6	35.9	п,	 27.9	ve De
	ow Depth	1949			In.	27.6			56.7	70.9	53.6	31.7	36.0	51.5	73.6	61.4	50.6	52.9	42.4	*** Denver
	Snow	r'ourteen	Year	Avg. *	In,	19°4			43.8	58,5	₩.T	27.4	18.3	6.04	53.9	15.8	37,1	51,5	35.2	riods.
	WATERSHEDS				CHEYENNE RIVER	Cheyenne River		PLATTE RIVER	Sweetwater	North Platte River	Laramie River	South Platte River**	Crow Creek	poudre River	Big Thompson River	St. Vrain River	Boulder Creek	Clear Creek   51,5	ARKINSAS KIVER	*Some for shorter periods.

## PRECIPITATION DATA\*

	ıre	
	repartu from Normal	Inches0884 -1.0
	Precipitation Warch	Inches 1.06 0.68 0.52
, 1950	Departure from Normal	nes         Inches         Inches           58         +.09         1.06           32         -1.38         0.68           10         -2.78         0.52
April 1	Precipitation October 1 to March 31	Inches 4.58 4.32 4.10
	STATE	Wyoming Colorado Colorado
	WATERSHED	North Platte South Platte Arkansas

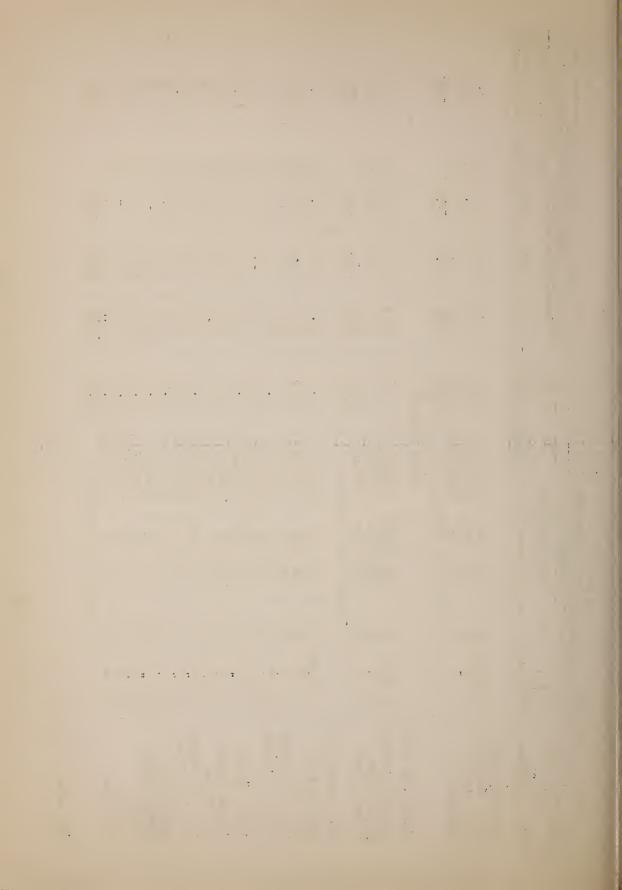
\*Average Selected High Elevation Stations



PLATTE-ARKANSAS RIVERS SNOW SURVEYS April 1, 1950

	Past Record	v. Water Con-	tent(Inches)		C	) ·	μ.α	3.1	2.0			12.6	11.3	0 6 5	L C • C	,	21.3	10.3	22.5	12.9	;	14.2	19.2	31.9	29.8	20.1	11.4	23.4	19.6	10,4		19.4
urements	Past	of	Rec. t		7	0 -	17	2				13	70	0			14	177	174	12		174	174	174	12	14	174		Ч	_	0	
r Meas	Inches)	-	1948		٢ 7	7 ° 0 -	7.7	2.6	4.3			14.2	11,4	1 C L	7.		21.8	10.0	25, 2	14.2	1	14.8	17.3	30.6	24.7	17.5	10.4	1	1	1	-	18.7
Snow Cover Measurements	Content (I		1949		0	10.0	T°,	7-17	α, 2			17.5	T.60	Y 6L	) - -	(	27.8	14.6	28,9	19.0	1	19.7	29.9	47.7	34.6	25.3	16.7	23.4	19.6	10.4		26.4
	Water C		1950		0		α·α	ار ار	6.9			24,3	23.7	22.8	7.	(	18.5	12.5	24.3	17.6	2.0	18.8	24.3	37.0	31.0	20.5	10,6	22.6	13.0		2.4	21.5
And a second district of the second district	Snow	Depth	(Inches)	RIVER	1.0.1	7.17	39.0	16.9	34.5	RIVER		6.79	1,00	70.0	2	1	53.5	17.0	73.6	51.7	23.9	49.3	63.5	96.2	94.9	68.6	39.6	63.3	10.8	25.9	26.4	63.2
And the second s	Date	of	Survey	MISSOURI	0000	05/50	2/17	0/3/30		PLATTE R.		2/4/2	2/1/2	0 4/3			٠. ١.	_	٠,	_	_									0 3/28		<u> </u>
		Elew.			7077	0000	000	009	inage			0006	9000	9006	Time		1030	920(	9300	9500	850	820	006	980	1020	1076	840	) 006 -	076	8450	0006	for Drainage
		Range			[:	리 .	田一	5E	or Dre			TOOM	TOT	10311	77.70		176W	78m	82W	184	79W	85W	85W	85w	80W	8011	811.	85W	781	MT2	751	for Di
		Twp.				200	ZN	NI	verage for Drainage			30N	SON	30N 103W 900	1 0 0 0 T	,	N9	SN	2	N <sup>†</sup>	I N	NTT	14N	14N	16N	16N	16N	15N	14	27N	30N	Average
Location		Sec.					54		Ave			19	7	<	•			24	21	~	∞	57	27	59	27	30	34	32	18	T	31	AV
Lo	No.	and	State			L S. Dak.		2				29 Wyo.	11/2	57 "			1 Colo.	, L	<b>=</b> ∞	e2 "	136 "	7 Wyo.	<b>*</b>	m 6	37 "	38 "	39 "	u 29	n 89	n 69	۷0 س	
	Drainage Basin	and	Snow Course		CHEYENNE RIVER	Upper Speariish	Upper Castle	Deerfield			SWEETWATER RIVER	Grannier Meadows	South Pass*	Larsen Creek		NO. PLATTE RIVER	Cameron Pass	Park View	Columbine Lodge	Willow Cr. Pass*	Northgate	Bottle Creek	Webber Spring	Old Battle	N.French Creek	N.Barrett Creek	Ryan Park	Spring Creek	Albany	La Bonte	Boxelder	

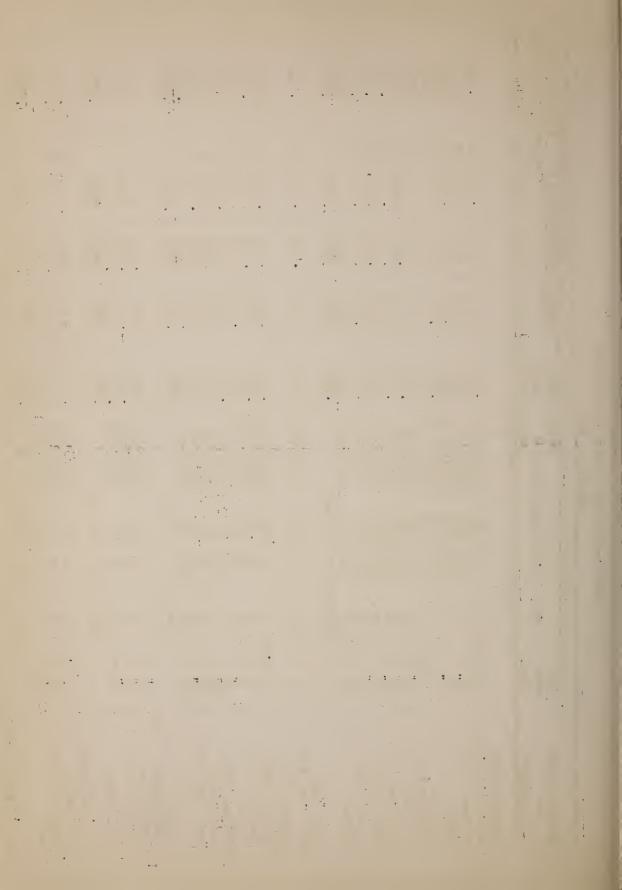
\*On adjacent drainage



PLATTE-ARKANSAS RIVERS SNOW SURVEYS April 1, 1950

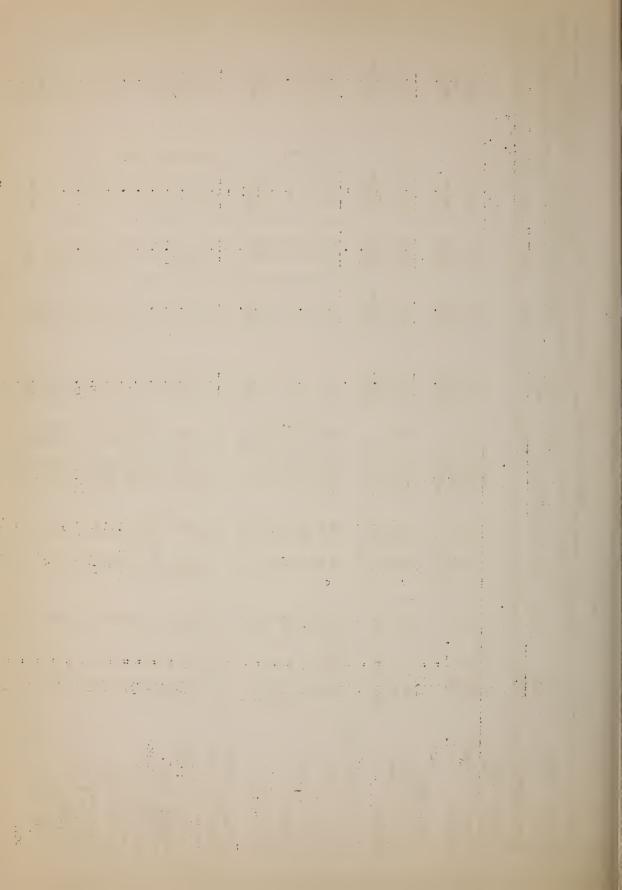
+ CC - 400 C - 110	١ د	Past Record	,4					-					1 19.6	12.5		14 5.2						10	1 14.7	1		9 11.8	1 8.7	10.1		14 13.7		
- 1	Cover Mea	Inches	1948		7 ),	13.4	20.3		21.5	10.4	7.2	12,3	7.07	13.2		7.2		8.12	9.6	73.07	200	က်ထ	13.6	•	23.8	13.0	-	18.5	-	13.1	1	_
	STIOW CC	Content(]	1949		7 11	20.6	24.0	14.5	27:8	10.6	9.6	14.0	19.6	16.7	1	9.6	,	27.8	91	2°,0°	0000	10,8	17.0	)	29.9	17.8	8.7	23.8		19.6	ر•٦	
	Tro to to	Water	1950		7. ).	15.4	17.9	10,4	27.3	4.3	2.7	2.5	13.0	12.8	) 1	2.7		18.5	0,0	ν, Γ.	100	13.0	1.) 0.01	• 1	20.9	11.5	4.2	16.2		13.7	بر بروير	1
	1110	Show	(Inches)		27.0	17.5	54.5	34.1	76.6	16,3	9.4	38.6	10.8	39.1		7.6		53.5	23.4	رة دري دري	\	29.6	30.1 37.3	)	4.19	38.8	15.9	50.I		43.6	2.8	
17.70	0+00	Date of	Survey	RIVER						1/2	3/30	3/31	1/1			3/3.0						- - - - - - - - - - - - - - - - - - -			1/1	3/31	3/31				3/31	
67 771	-	710	> 1	PLATTE	8600	10200	9800	0016	10200	9200	8700	8700	9000	 	)	8700		10300	0006	10200	10600	9500	70000	) D	10600	9550	9050	ge		10000	2600	7
H.D.	- 1	P on G	o Simple		75W	2.5mm	W77	76W	M62	78W	72W	78W	781	draina	-	72W		16W	12/2	72	7. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.	331	/tw draina		751.	751	7377	draina		17世	2	
1000+000	oca cTo	E.	). 		RN	NOL	NOI	TON	16N	13N	15N	16N	14N	e for		15N		0N	Z	NOC	1 T	12.	LON For	<b>!</b> } !	S <sub>N</sub>	SN	NS.	e for		3N	Z N	-
-	7	Ö	בי ב		7	26	ι V	35	1	21	35	29	18	Averag		35		2	9.5	26	ς α	18	Zo Averag	)   	8	23	19	Averag		5η 7	77	
	1	No.	State		0[0] (	50 = 20	88 88	111 "	3 Wyo.	 	34 "	35 = 2	: <b>:</b> 89			34 "		1 0010	200	- = - 0	65.	= = \@%	071		65 H	n 56	115 "			41 Colo	oTT	
		Drainage Basın	Snow Course		LARAMIE RIVER	Deadman Hill*	Roach	McIntyre	Brooklyn Lake		Pole Mtn. #2%	Libby Lodge	Albany		CROW CREEK	Pole Mtn. #2*	POUDRE RIVER	Cameron Pass	Chambers Lake	Deadman Hill	Take Trenex	Hour Glass Lake	ned rearner	BIG THOMPSON RIVER	Lake Irene*	Hidden Valley	Deer Ridge		ST. VRAIN RIVER	Wild Basin	Coperard Lake	12.0

\*On adjacent drainage

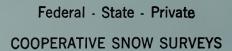


PLATTE-ARKANSAS RIVERS SNO. SURVEYS
April 1, 1950

		10001	20	T.	T TT 104	, 1770			Snow	COVER	711289	M Gasilrements
	N.C.	Local	TOIL			+00			1)+00+00		THE CASS OF	olicii oo
Drainage Basın	No.	Sec	- Chirl	Range	F.T ev.	Dave	Denth	Tare.		Tuches	rs. of	flav Water Con-
Snow Course	State		од 1	2		Survey	(Inches)	1950	1949	1948	Rec.	
BOUIDER CREEK F. Port. Woffat T.	5 Colo.		28		0076	1/1	15.7	4.9	1,8	4,5	14	J.
University Camp	. 09	28	JN	7377	10300	3/29	56.2	18.3	25.1	24.0	12	21.1
Moffat	133 "	2	2S		0076	1/7	26,1	8,2	!	1	0	+
			Avera	Average for	drainage	ge	35.9	11.6	14.9	14.3		12,3
CLEAR CREEK	19	27	SI		00901	11/3	119.11	1/10	1),0	14.0	17	13,5
Grizzly Peak	n 76	. 2	58		11250	3/26	0.09	19.1	18.7	16,4	ω	17.4
Empire	117 "	2.7	38		9650	14/3	26.8	7.0	5.7		Н	7. V
			Avera	Average for	drainage	න භ	24.6	To°0	TO, 44	7.CT		15.5
SOUTH PLATTE RIVER							(	`	(	ו	-	1
Hoosier Pass	14 00100		88 83		11400	3/31	38.7	10,6	12,8	15,5	14	12.1
Fairplay	15.	33	98		10000	3/31	0	0	L, 6	5.3	T3	0 -
Jefferson Cr.	= 83	177	75		10100	3/31	31.7	ر م	ರ್ಷ -	11,2	10	۲°۶
Geneva Park	118 "	18	89	74W	9750	3/31	12.2	4.1	4.3	1		ر <del>د</del> . س
Antero	120 "		138		9200	3/28	2,8		5,4	1		5.4
Deer Creek	130 "	28	99	78W	8950	3/31	0	0	1,2	1	-	1.2
			Aver	Average for	drainage:	age	23.5	6.2	7.9	10.7		7,2
ARKANSAS RIVER					-							,
Tennessee Pass	19 0010.		88	80M	10200	3/29	38.9	9.2	7,3	12,1	14	8,9
win Lakes T.	, TS	25	118		10500	17	31.4	9.6	10.7	10° %	14	10.2
Marshall Creek*	175 "	54	148N			1/2	31.4	7.6	14.8	13.8	14	13.2
Poncha Creek	13 =	13	N817			4/2	24.6	2,2	13.7	11.9	14	11,3
Whiskey Creek	72 "		37, 2NIL(		10300	3/31	6.7	2,2	O ထိ	6.6	73	7.0
La Veta Pass*	72	22	288	YOW	9300	3/28	12,8	4.2	9.4	14.6	17	8.4
4-Wile Park	78 11	23	113		9700	3/29	14,2	3,6	2.1	7,8	17	3.2
Fremont Pass	11 62	2	88	M62	11400	3/27	59.5	16,2	15.6	17.3	14	15.8
Blue Lakes	81 "	30	318			3/31	10,0	3,2	10.3	8,9	12	6.9
Monarch Pass	95 "	16	149M			3/28	53,4	16.0	20,0	20.2	0\	17,8
St. Elmo	119 "	31	158	80W		3/29	7,01	13.1	13,7	a a		13,7
Timberline	121 "	∞	S6,	81W		3/30	65.6	19,4	22.4	1	<del></del>	22.4
Woods Lake	131 "	2	<u> </u>	834	100011	3/31	56.6	17.2			0	1
		100.7	Avera	werage for	drainage	eg e	27.9	2.9	11,2	12.91		10.3







Furnishes the basic data necessary for forecasting water supply for irrigation, domestic and municipal water supply, hydro-electric power generation, navigation, mining and industry

"WATER IS THE WEST'S GREATEST RESOURCE"